

2 About the 2011 TIGER/Line Shapefiles

2.1 What are the 2011 TIGER/Line Shapefiles?

The shapefiles represent geographic linear features such as roads, railroads, rivers, and non-visible legal boundaries; selected point features such as hospitals; and areal features such as parks. The files also contain attribute information about these features, such as names, the type of feature, address ranges for most streets, the geographic relationship to other features, and other related information. The 2011 TIGER/Line Shapefiles include data for all 50 states, the District of Columbia, the Commonwealth of Puerto Rico and the Island areas.

The 2011 TIGER/Line Shapefiles contain current geography. Current geography is defined as the latest version of the geographic extent of legally defined geographic areas as reported, generally reflecting the boundaries of governmental units in effect as of January 1, 2011, or legal and statistical area boundaries that have been adjusted and/or corrected since the 2010 Census. This vintage enables users to see the most current boundaries of governmental units that will match the data from the surveys that use 2011 geography, such as the 2011 Population Estimates and the American Community Survey.

2.2 Geographic Features and Boundaries Available in the 2011 TIGER/Line Shapefiles

The 2011 TIGER/Line Shapefiles contain the geographic extent and boundaries of both *legal* and *statistical* entities. A legal entity is a geographic entity whose boundaries, name, origin, and area description result from charters, laws, treaties, or other administrative or governmental action. A statistical entity is any geographic entity or combination of entities identified and defined solely for the tabulation and presentation of data. Statistical entity boundaries are not legally defined and the entities have no governmental standing.

The legal entities included in these shapefiles are:

- American Indian off-reservation trust lands
- American Indian reservations (both federally and state-recognized)
- American Indian tribal subdivisions (within legal American Indian areas)
- Alaska Native Regional Corporations
- 112th Congressional Districts
- Counties and equivalent entities (except census areas in Alaska)
- Hawaiian home lands
- Consolidated cities
- Incorporated places
- Minor civil divisions (MCDs, legal county subdivisions)
- School districts (elementary, secondary, and unified)
- States and equivalent entities
- State legislative districts (upper and lower chambers)
- Subminor civil divisions (sub-MCDs, in Puerto Rico and the Virgin Islands only)

The statistical entities included in these shapefiles are:

- Alaska Native village statistical areas
- Tribal designated statistical areas
- Oklahoma tribal statistical areas
- State designated tribal statistical areas
- Tribal census tracts
- Tribal block groups
- American Indian tribal subdivisions (within Oklahoma tribal statistical areas)
- Block groups
- Census areas (statistical county equivalents in Alaska)
- Census blocks
- Census county divisions (CCDs), census subareas (in Alaska), and unorganized territories (statistical county subdivisions)
- Census designated places
- Census tracts

Metropolitan and micropolitan statistical areas
Metropolitan divisions
Combined New England city and town areas
Combined statistical areas
New England city and town areas
New England city and town area divisions

2.3 Boundary Changes

The 2011 TIGER/Line Shapefile boundaries for some legal areas represent those that were collected as part of the Census Bureau's 2011 Boundary and Annexation Survey (BAS). The boundaries of all federally recognized American Indian reservations and off-reservation trust lands, tribal subdivisions, states and equivalent entities, all counties and equivalent entities, all minor civil divisions (MCDs), all consolidated cities, and all incorporated places generally are those that were legally in effect as of January 1, 2011. The 2011 TIGER/Line Shapefile boundaries for elementary, secondary, and unified school districts are collected through a survey of state school authorities under the auspices of the U.S. Department of Education's National Center for Education Statistics and are current as of the 2009-2010 school year.

For more information about the Boundary Annexation Survey (BAS), please visit:
<http://www.census.gov/geo/www/bas/bashome.html>

For all other legal entities, and nearly all statistical areas, the boundaries shown are those in effect at the time of the 2010 Census. Because unorganized territories and census designated places (CDPs) occupy the same level of geography as legal MCDs and incorporated places, updates to the legal boundaries may affect the current boundaries for some of these entities, including the elimination of some of the statistical entities and, less commonly, additions to the inventory and changes to boundaries based on local requests. Current geography may differ from 2010 Census geography due to feature updates that cause boundary shifts. For example, if a street feature that acts as a census tract boundary is moved, then the census tract boundary will move as well.

2.4 Accuracy of Linear Features

In order to maintain a current geographic database from which to extract the TIGER/Line Shapefiles, the Census Bureau uses various internal and external processes to update the MAF/TIGER database. While it has made a reasonable and systematic attempt to gather the most recent information available about the features this file portrays, the Census Bureau cautions users that the files are no more complete than the source documents used in their compilation, the vintage of those source documents, and the translation of the information on those source documents.

2.5 Initial Sources

The initial sources used to create the Census TIGER database, predecessor to the MAF/TIGER database, were the U.S. Geological Survey (USGS) 1:100,000-scale Digital Line Graph (DLG), USGS 1:24,000-scale quadrangles, the Census Bureau's 1980 geographic base files (GBF/DIME-Files), and a variety of miscellaneous maps for selected areas outside the contiguous 48 states. The DLG coverage is extensive, albeit of variable currency, and comprises most of the rural, small city, and suburban area of the TIGER/Line Shapefiles. GBF/DIME-File coverage areas were updated through 1987 with the manual translation of features from the most recent aerial photography available to the Census Bureau.

The Census Bureau interactively added the enumerator updates compiled during the 1990 and Census 2000 operations to the TIGER database. The updates came from map annotations made by enumerators as they attempted to locate living quarters by traversing every street feature in their assignment area. The Census Bureau digitized the enumerator updates directly into the TIGER database without any coordinate accuracy or use of imagery but rather relied on placement regarding relative location.

The Census Bureau also made other corrections and updates to the Census TIGER database that were supplied by local participants in various Census Bureau programs. Local updates originated from map reviews by local government officials or their liaisons and local participants in Census Bureau programs. Maps were sent to participants for use in various census programs, and some maps were returned with

update annotations and corrections. The Census Bureau generally added the updates to the TIGER database without extensive checks.

MAF/ TIGER Accuracy Improvement Project

The Census Bureau conducted a multi-year project beginning in 2003 called the MAF/TIGER Accuracy Improvement Project (MTAIP) to realign and update street features in our geographic database. The project, which was completed in 2008, realigned and updated the street features by county (or equivalent entity) to an average of 7.6 meters. State, tribal, county, and local governments submitted over 2,000 files, which the Census Bureau used as sources to perform the realignment and feature update work. In other counties, contractors performed the work using recently obtained imagery and/or driving the counties with Global Positioning System (GPS) enhanced mapping equipment.

Address Canvassing

In preparation for the 2010 Census, Census Bureau employees walked virtually every street in the United States and Puerto Rico with the primary purpose of verifying and updating Census address lists. A second priority was to provide updates to the Census Bureau's road network. For the first time census workers used handheld computers that captured GPS information and used this technology to improve both the address lists and the census road network. Census field workers had the opportunity to use GPS to add new roads, identify roads for deletion, and rename existing roads.

2.6 Coordinates

Coordinates in the TIGER/Line Shapefiles have six decimal places, but the positional accuracy of these coordinates may not be as great as the six decimal places suggest. The spatial accuracy varies with the source materials used. The Census Bureau cannot specify the spatial accuracy of feature changes added by its field staff through local updates or of features derived from the GBF/DIME-Files or other map or digital sources. Thus, the level of spatial accuracy in the TIGER/Line Shapefiles makes them not suitable for high-precision measurement applications such as engineering problems, property transfers, or other uses that might require highly accurate measurements of the earth's surface. No warranty, expressed or implied, is made with regard to the accuracy of these data, and no liability is assumed by the U.S. Government in general or the Census Bureau specifically, as to the spatial or attributes accuracy of the data.

2.7 Codes for Geographic Entities

The 2011 TIGER/Line Shapefiles include the American National Standards Institute (ANSI) codes to identify both legal and statistical entities. The ANSI codes are a standardized set of numeric or alphabetic codes issued by the American National Standards Institute (ANSI) to ensure uniform identification of geographic entities through all federal government agencies. The entities covered include: states and statistically equivalent entities, counties and statistically equivalent entities, named populated and related location entities (such as, places and county subdivisions), and American Indian and Alaska Native areas.

The ANSI publications include both the Federal Information Processing Series (FIPS) codes and the United States Geological Survey's Geographic Names Information System (GNIS) codes. The FIPS codes appear in the 2011 TIGER/Line Shapefiles in fields such as "STATEFP", where "FP" indicates that the field contains a FIPS code. The GNIS codes are a permanent numeric identifier of up to eight digits. The GNIS codes appear in fields such as "STATENS", where "NS" (National Standard) indicates that the field contains a GNIS code. The Census Bureau stores the GNIS code as a fixed-width string; the official code is a numeric value without leading zeroes. The GNIS code is available for 2010 and all subsequent vintage entities.

For more information about ANSI codes, please visit: <http://www.census.gov/geo/www/ansi/ansi.html>.